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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/665,200   | 09/18/2000  | Jonas Karlsson       | 34645-00498USPT     | 4093             |
| 38065  | 7590        | 08/09/2005           | EXAMINER            |                  |
| ERICSSON INC.<br>6300 LEGACY DRIVE<br>M/S EVR C11<br>PLANO, TX 75024 |             |                      | MOORE, IAN N        |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2661                |                  |

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/665,200

Applicant(s)

KARLSSON ET AL.

Examiner

Ian N. Moore

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-12 and 14-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 9-12 is/are rejected.
- 7) ☒ Claim(s) 6-8 and 14-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1-13-05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Amendment***

1. Claims 1-4 and 9-12 are rejected by the same ground of rejections.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1,4,9 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Yellin (US006034986A).

**With regard to claims 1 and 9**, Yellin discloses a data detector 10' that includes a rake receiver 12 (first process/first processor) and a pilot processor 11 connected to an interference processor 20 (interference cancellation algorithm) (items 11 and 20 jointly correspond to second process/second processor) as illustrated in figure 4 (column 8, lines 38-44). Yellin further discloses a subtractor 22 (combining/selector) (column 8, lines 49-52).

**With regard to claims 4 and 12**, Subtractor 22 removes multiple interference effect outputs of processors 20 from the data signal X (n) in order to produce a corrected signal X' (n) (column 8, lines 49-53). As illustrated by Fig 1 and Fig 4, that rake receiver 12 (first process/first processor) and a pilot processor 11 connected to an interference processor 20 (interference cancellation algorithm) function in parallel (not later in time).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2,3,10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yellin in view of admitted prior art.

The Yellin patent does not teach the use the use of a buffer to temporarily store the combined data segment.

**With respect to the additional limitations of claims 2 and 10** in which combined segments are temporally stored in a buffer, the applicant discloses this limitation as prior art as shown in FIG. 2 of the specification. A buffer or other memory device may be employed to store the data segment prior to additional processing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a buffer or other memory devices in the event that the combined data segment would undergo additional evaluation.

The Yellin patent does not teach or fairly suggest a de-interleaving and decoding device to process the combined data segment.

**With respect to the limitations of claim 3 and 11** in which the combined segments are de-interleaved and decoded, the applicant discloses this limitation as prior art as shown in FIG. 2 of the specification. A de-interleaving and decoding device may be employed so that errors do not occur in consecutive bits. It would have been obvious to one of ordinary skill in the art at the

Art Unit: 2661

time the invention was made to employ a de-interleaving and decoding device to reduce errors in the combined data segment.

*Allowable Subject Matter*

6. Claims 6-8 and 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Response to Arguments*

7. Applicant's arguments filed 3/22/05 have been fully considered but they are not persuasive.

**Regarding claims 1, 4, 9 and 12, the applicant argued that, "...processing of a data frame according to first and second processes in parallel...the invention relies...to minimize the delays generally incurred by such an interference cancellation process..."** in page 6, paragraph 1.

**In response to applicant's argument** that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., **parallel... to minimize the delays generally incurred by such an interference cancellation process**) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Even if the parallel is claimed, Yellin's discloses a first processor (see FIG. 4, Rake Receiver 12) and a second processor (see FIG. 4, a joint/combined system of Pilot processor base 11 and interference processor 20), which are connected in "parallel".

**Regarding claims 1, 4, 9 and 12, the applicant argued that, "...subtractor 22 is used to remove the interference signals output from the interference processors...in contrast, applicant's invention combine selected segments of a data frame processed...the difference between combining selected segment and subtracting an inference signal renders Yellin insufficient to anticipated claim 1..."** in page 6, paragraph 2.

**In response to applicant's argument, the examiner respectfully disagrees that the argument above.**

Yellin clearly discloses in FIG. 4, a summation sign " $\Sigma$ " with label 22, which adds the positive "+" output of Rake receiver X (n) with negative "-" interference output of the combined system of pilot processor base 11 and interference 20. It is well established in the art of mathematic, when adding a positive value and negative value, **results subtraction of one from the other**. Thus, Yellin's refer to its summer/adder/combiner " $\Sigma$ " with label 22 as a "subtractor". In fact, subtractor 22 is summing/combining a negative and positive values. For example,

$$+X(n) \Sigma (- \text{Interference value}) = +X(n) + (- \text{Interference value}) = +X(n) - \text{Interference value} = X'(n)$$

Regardless how each device is named, both Yellin's subtractor and the applicant's selector have the same capability to sum/combine two signals. Thus, examiner asserts a subtractor 22 as applicant's selector.

**Regarding claims 2,3,10 and 11, the applicant argued that, "...such picking and choosing from the prior art is improper...various bits of data or teaching of the prior art are not properly combined..."** in page 7, paragraph 2.

**In response to applicant's argument, the examiner respectfully disagrees with the argument above.**

FIG. 1 and FIG. 2 are clearly marked as "prior art" and the pages 2-4 are clearly titled as "background of the invention" which discusses FIG. 1 and 2. The limitation set forth in claims 2,3,10 and 11 are clearly shown and admitted by the applicant that was prior art. Thus, examiner believes the rejection based upon applicant's admitted prior art is proper.

**In response to applicant's argument** that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, by having a buffer or other memory device, it would enhance the processing capability by storing data in the event that combined data segment undergo additional evaluation, and as set forth in first office action pages 3 and 4. Note that utilizing of buffer or storage or memory for temporality storing data is also well known in the art since it would provide the capability to manipulate/analyze the data rather than processing right away. Moreover, decoding and interleaving is the fundamental and well established in processes of radio communication in order to compress/fit into a limited radio bandwidth.

In view of the above, **the examiner respectfully disagrees** with applicant's argument and believes that the reference and admitted prior art as set forth in the 102 and 103 rejections are proper.

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian N. Moore whose telephone number is 571-272-3085. The examiner can normally be reached on 9:00 AM- 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



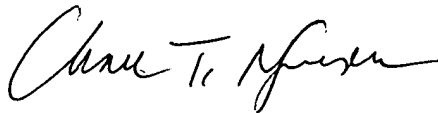
Art Unit: 2661

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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